AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A three-dimensional image display device, comprising:

a display panel where a plurality of pixel sections, each of which includes pixels displaying an image for a right eye and pixels displaying an image for a left eye, are arrayed in matrix form, the pixels sections being periodically arranged in a horizontal direction; and

an optical unit that emits light emitted from the pixels displaying said image for the right eye and light emitted from the pixels displaying said image for the left eye in directions different from each other,

wherein a three-dimensional visible range is defined as positions where a midpoint between a viewer's right eye and left eye is positioned such that the light emitted from the pixels displaying said image for the right eye is made incident to said right eye and the light emitted from the pixels displaying said image for the left eye is made incident to said left eye, and

wherein the pixel sections are arrayed such that a number of pixel sections per inch in the horizontal direction is configured such that a resolution of the image in the horizontal direction as projected in the three-dimensional visible range ~~is no less than the resolution of the eyesight of a viewer whose midpoint between the right eye and the left eye is positioned in said three-dimensional visible range~~ <u>when D(mm) is defined as the distance between said display panel and a point which is most distant from said display panel within said three-dimensional visible range, the number of pixels sections per inch (X) in said horizontal direction, the distance D and the</u>

definition X are set to satisfy the equation below, so that viewing angles of images of pixel sections incident to the right and left eyes are smaller than or equal to tan (1'):

X > 25.4/ *D*tan (1')*.

2. (previously presented): The three-dimensional image display device according to Claim 1, wherein pixel sections are arrayed such that a number of said pixel sections per inch in the vertical direction is configured such that a resolution of the image in the vertical direction as projected in the three-dimensional visible range is no less than the resolution of the eyesight of a viewer whose midpoint between the right eye and the left eye is positioned in said three-dimensional visible range.

3. (original): The three-dimensional image display device according to Claim 1, wherein said display panel is a liquid crystal display panel.

4. (previously presented): The three-dimensional image display device according to Claim 1, wherein said optical unit is a parallax barrier wherein a plurality of slits are periodically arranged in said horizontal direction.

5. (previously presented): The three-dimensional image display device according to Claim 1, wherein said optical unit is a lenticular lens that is arranged on the viewer side of said

display panel, provided with a plurality of cylindrical lenses extended in a vertical direction and periodically arranged in said horizontal direction.

6. - 10. (canceled)

11. (original): The three-dimensional image display device according to Claim 1, wherein said device displays a three-dimensional moving picture.

12. (original): The three-dimensional image display device according to Claim 1, wherein said device is mounted in a portable device.

13. (original): The three-dimensional image display device according to Claim 12, wherein said portable device is any one of a cellular phone, a portable terminal, a PDA, a game device, a digital camera, and a digital video camera.

14. (currently amended): A three-dimensional image display method, wherein:

arraying a plurality of pixel sections in matrix form on a display panel, in which one pixel included in each pixel section displays an image for a right eye and another pixel displays an image for a left eye, the pixels displaying said image for the right eye and the pixels displaying said image for the left eye being periodically arranged in a horizontal direction;

controlling light emitted from said pixel sections with an optical unit such that light emitted from the pixels displaying said image for the right eye and light emitted from the pixels displaying said image for the left eye, are in directions different from each other, and

positioning a midpoint between the right eye and the left eye in a three-dimensional visible range, such that the light emitted from the pixels displaying said image for the right eye is made incident to said right eye and the light emitted from the pixels displaying said image for the left eye is made incident to said left eye,

wherein the pixel sections are arrayed such that a number of the pixel sections per inch in the horizontal direction is configured such that a resolution of the image in the horizontal direction as projected in the three-dimensional visible range~~ is no less than the resolution of the eyesight of a viewer whose midpoint between the right eye and the left eye is positioned in said three-dimensional visible range~~ <u>when D(mm) is defined as the distance between said display panel and a point which is most distant from said display panel within said three-dimensional visible range, the number of pixels sections per inch (X) in said horizontal direction, the distance D and the definition X are set to satisfy the equation below, so that viewing angles of images of pixel sections incident to the right and left eyes are smaller than or equal to tan (1'):</u>

<u>X > 25.4/ *D*tan (1')*</u>.

15. (previously presented): The three-dimensional image display method according to Claim 14, wherein the pixels sections are arrayed such that a number of said pixel sections per inch in the vertical direction is configured such that a resolution of the image in the vertical

direction as projected in the three-dimensional visible range is no less than the resolution of the eyesight of a viewer whose midpoint between the right eye and the left eye is positioned in said three-dimensional visible range.

16. - 24. (canceled).

25. (canceled).

26. (previously presented): The three-dimensional image display device according to claim 2, when D(mm) is defined as the distance between said display panel and a point which is most distant from said display panel within said three-dimensional visible range, the number of pixel sections per inch (M) in said vertical direction satisfies the expression of:

$M \geq 25.4/ D{*}tan\ (1')$.

27. (canceled).

28. (previously presented): The three-dimensional image display device according to claim 15 when D(mm) is defined as the distance between said display panel and a point which is most distant from said display panel within said three-dimensional visible range, the number of pixel sections per inch (M) in said vertical direction satisfies the expression of:

$M \geq 25.4/ D{*}tan\ (1')$.

29. (canceled).

30. (previously presented): The three dimensional image display device according to claim 25, wherein the optical unit is a lenticular lens having a refracting index n,

wherein when the pitch of a pixel section is defined as "2P", an interval between the right eye and the left eye is defined as "e", a distance between the lenticular lens and the pixel section is defined as "H", an incident angle from the end portion of a pixel group located at the center of the display panel in a horizontal direction to a center of a cylindrical lens located at the center of the lenticular lens in a horizontal direction is defined as "α", an output angle from the center of the lenticular lens is defined as "β", and a maximum observation distance is defined as "D", the following expressions are satisfied,

$n \times \sin\alpha = \sin\beta$

$(D-H) \times \tan\beta = e$

$H \times \tan\alpha = P$.

31. (previously presented): The three dimensional image display device according to claim 26, wherein the optical unit is a lenticular lens having a refracting index n,

wherein when the pitch of a pixel section is defined as "2P", an interval between the right eye and the left eye is defined as "e", a distance between the lenticular lens and the pixel section is defined as "H", an incident angle from the end portion of a pixel group located at the center of

the display panel in a horizontal direction to a center of a cylindrical lens located at the center of the lenticular lens in a horizontal direction is defined as "α", an output angle from the center of the lenticular lens is defined as "β", and a maximum observation distance is defined as "D", the following expressions are satisfied,

$n \times \sin\alpha = \sin\beta$

$(D-H) \times \tan\beta = e$

$H \times \tan\alpha = P$.